Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently amended) A process for ~~cleaning~~ removing TiO_2 from a reactor wherein the reactor is used to coat TiO_2 onto an article, said process comprising:

providing the reactor to be cleaned wherein the reactor contains a chamber comprising a surface other than the article at least partially coated with a substance comprising TiO_2;

adding to the reactor a reactive gas comprising at least one cleaning gas;

reacting the ~~substance~~ TiO_2 with the reactive gas to form at least one volatile product; and

removing from the reactor the at least one volatile product ~~to clean the reactor~~.

2. (Previously presented) The process of claim 1, wherein the at least one cleaning gas is selected from the group consisting of a fluorine-containing cleaning gas, a chlorine-containing cleaning gas, and combinations thereof.

3. (Original) The process of claim 2, wherein the at least one cleaning gas is a chlorine-containing cleaning gas.

4. (Original) The process of claim 3 wherein the chlorine-containing cleaning gas is at least one member selected from the group consisting of BCl_3, $COCl_2$, HCl, Cl_2, ClF_3, and NF_zCl_{3-z}, where z is an integer from 0 to 2.

5. (Original) The process of claim 2 wherein the at least one cleaning gas is a fluorine-containing cleaning gas.

6. (Previously presented) The process of claim 5 wherein the fluorine-containing cleaning gas comprises at least one member selected from the group consisting of NF_3; ClF_3; ClF; SF_6; a perfluorocarbon; a hydrofluorocarbon; an oxyfluorocarbon; a hypofluorite, a fluoroperoxide; a fluorotrioxide; COF_2; NOF; F_2; NF_nCl_{3-n}, where n is a number ranging from 1 to 2; and combinations thereof.

7. (Original) The process of claim 6, wherein the fluorine-containing cleaning gas is NF_3.

8. (Original) The process of claim 1, wherein the reactive gas further comprises an inert diluent gas.

9. (Previously presented) The process of claim 1, wherein the reacting step is conducted by an in situ plasma, a remote plasma, an in-situ thermal source, a remote thermal source, a remote catalytic source, a photon activation source, or combinations thereof.

10. (Original) The process of claim 9, wherein the reacting step is conducted by an in situ plasma.

11. (Original) The process of claim 9 wherein the reacting step is conducted by a remote plasma.

12. (Previously presented) The process of claim 1, wherein the reactive gas is conveyed to the chamber from a gas cylinder, a safe delivery system, a pipeline, a point of use delivery system, a vacuum delivery system, or combinations thereof.

13. (Previoulsy presented) The process of claim 5, wherein the fluorine-containing reactive gas is formed in close proximity to the reactor by a point-of-use generator.

14. (Previoulsy presented) The process of claim 1 wherein the article is selected from the group consisting of a glass-containing work piece, a metal-containing work piece, a ceramic work piece, and mixtures thereof.

15. (Currently amended) A process for the deposition of a TiO_2 coating on a glass article, the process comprising:

placing the glass article into a reactor;

depositing the TiO_2 coating onto the glass article and a substance comprising TiO_2 onto at least one surface within the reactor other than the article using at least one metal precursor wherein the depositing step is conducted by a process selected from the group consisting of chemical vapor deposition, vacuum deposition, spray pyrolysis and combinations thereof;

adding to the reactor a reactive gas comprising at least one cleaning gas;

reacting the ~~substance~~ TiO_2 on the reactor surface other than the article with the reactive gas to form at least one volatile product; and

removing from the reactor the at least one volatile product ~~to clean the reactor~~.

16. (Previoulsy presented) The process of claim 15, wherein the at least one cleaning gas is selected from the group consisting of a fluorine-containing cleaning gas, a chlorine-containing cleaning gas, and combinations thereof.

17. (Previoulsy presented) The process of claim 16, wherein the at least one cleaning gas is a chlorine-containing cleaning gas.

18. (Previoulsy presented) The process of claim 17 wherein the chlorine-containing cleaning gas is at least one member selected from the group consisting of BCl_3, $COCl_2$, HCl, Cl_2, ClF_3, and NF_zCl_{3-z}, where z is an integer from 0 to 2.

19. (Previoulsy presented) The process of claim 16 wherein the at least one cleaning gas is a fluorine-containing cleaning gas.

20. (Previoulsy presented) The process of claim 19 wherein the fluorine-containing cleaning gas comprises at least one member selected from the group consisting of NF_3; ClF_3; ClF; SF_6; a perfluorocarbon; a hydrofluorocarbon; an oxyfluorocarbon; a hypofluorite, a fluoroperoxide; a fluorotrioxide; COF_2; NOF; F_2; NF_nCl_{3-n}, where n is a number ranging from 1 to 2; and combinations thereof.